

## **REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed October 18, 2006. Claims 1-14 remain pending in the present application. Reconsideration and allowance of the application and pending claims are respectfully requested.

### **1. Response to Objections of the Specification**

The specification has been amended to overcome the objection to the specification. In particular, the heading "Statement of the Invention" has been changed to "Summary of the Invention." Therefore, Applicants respectfully request withdrawal of the objection.

### **2. Response to Objections of the Claims**

Claim 9 has been objected to because of an antecedent problem. Accordingly, the claims has been amended in a manner suggested by the Examiner to overcome the antecedent problem. Therefore, Applicants respectfully request withdrawal of the objection.

### **3. Response to Rejections of Claims under 35 U.S.C. §102**

Claim 9 has been rejected under 35 U.S.C. §102(b) as being anticipated by *Smith* (U.S. Patent No. 5,678,013). Applicants respectfully traverse this rejection.

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed subject matter must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. §102(b). In the present case, not every feature of the claimed subject matter is represented in the *Smith* reference.

As provided in independent claim 9, Applicants claim:

A method of simulating activities of a plurality of creatures, the method comprising ***utilizing at least two modes of simulation:***

***a first mode arranged to simulate the activities of all of said creatures; and***

***a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first***

*mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions:*

*a first portion which contains functions arranged for use in both of said modes of simulation; and*

*a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode.*

(Emphasis added).

Applicants respectfully submit that independent claim 9 is allowable for at least the reason that *Smith* does not disclose, teach, or suggest at least "utilizing at least two modes of simulation," "a first mode arranged to simulate the activities of all of said creatures," "a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions," "a first portion which contains functions arranged for use in both of said modes of simulation; and a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode," as recited and emphasized above in claim 9.

Rather, *Smith* appears to disclose at most a process for presenting visual representations of rules and/or subroutines that define the behavior of a simulation object. Instead of a user having to know a programming language to modify object properties and behavior rules, *Smith* describes a process of using graphical interface to make such modifications. However, *Smith* fails to teach or suggest a method of simulating activities using at least two modes of simulation, as described in claim 9. In *Smith*, the same mode of simulation is also used throughout. Further, the citation provided in the Office Action (which allegedly discloses the foregoing feature) refers to a description of a technique for defining subroutines using a drag and drop procedure via a graphical interface and does not disclose or describe "two modes of simulation." Col. 31, line 14. Accordingly, *Smith* also fails to teach or suggest a first mode arranged to simulate the activities of all of said creatures; and a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode," as recited in claim 9.

Moreover, *Smith* fails to teach or suggest that a model of a creature that is simulated in both modes is comprised of at least a first portion which contains functions arranged for use in both of the modes of simulation and a second portion

comprising two alternative versions, where a first version is for use in the first mode of simulation, and a second version is for use in the second mode. In contrast, as stated above, *Smith* seems to disclose only one mode of simulation. With respect to the citation provided in the Office Action (which allegedly discloses the foregoing feature), it refers to a description of a technique for defining a conditional statement, often used in computer programming, to transition from one simulation state to another, called a Graphical Rewrite Rule (GRR), and does not disclose functions used in both modes of simulation and different versions of a second portion used in different modes of simulation. Col. 6, lines 42-43.

For at least these reasons, *Smith* does not teach or suggest "utilizing at least two modes of simulation," "a first mode arranged to simulate the activities of all of said creatures," "a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions," "a first portion which contains functions arranged for use in both of said modes of simulation; and a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode," as recited in claim 9. As a result, *Smith* does not anticipate claim 9, and the rejection should be withdrawn.

#### **4. Response to Rejections of Claims Under 35 U.S.C. §103**

In the Office Action, claims 1-8 and 10-14 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Atsumi* ("Artificial Neural Development for Pulsed Neural Network Design—A Simulation Experiment on Animat's Cognitive Map Genesis") in view of *Smith*. It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

a. Claim 1

As provided in independent claim 1, Applicants claim:

A method of simulating a creature for use in two different complexities of simulation, the method comprising ***utilizing a model of the creature that comprises at least two portions, a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation.***

(Emphasis added).

Applicants respectfully submit that independent claim 1 is allowable for at least the reason that *Atsumi* in view of *Smith* does not disclose, teach, or suggest at least "utilizing a model of the creature that comprises at least two portions, a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation," as recited and emphasized above in claim 1.

For example, *Atsumi* describes a method of generating a three-dimensional neural network arranged in three layers: the nerve area layer, the nerve sub-area layer, and the cell layer. *Atsumi* fails to teach or suggest a method of simulating a creature in different complexities of simulation, however. While the neural network described in *Atsumi* may be complex, the same level of complexity is used during simulation. Therefore, *Atsumi* fails to teach or suggest a method of simulating a creature for use in two different complexities of simulation comprising "utilizing a model of the creature that comprises at least two portions, a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation," as recited in claim 1.

With respect to *Smith*, *Smith* appears to disclose at most a process for presenting visual representations of rules and/or subroutines that define the behavior of a simulation object. Instead of a user having to know a programming language to modify object properties and behavior rules, *Smith* describes a process

of using graphical interface to make such modifications. However, *Smith* fails to teach or suggest a method of simulating activities using at different complexities of simulation, as described in claim 1. In *Smith*, the same complexity of simulation is also used throughout. Further, the citation provided in the Office Action (which allegedly discloses the foregoing feature) refers to a description of a technique for defining subroutines using a drag and drop procedure via a graphical interface and does not disclose or describe "different complexities of simulation." Col. 31, line 14. Moreover, *Smith* fails to teach or suggest that a model of a creature that is simulated in different complexities is comprised of at least a first portion which contains functions arranged for use in both of the different complexities of simulation and a second portion comprising two alternative versions, where a first version is for use in one of the different complexities of simulation, and a second version is for use in the other different complexity of simulation. For example, as stated above, *Smith* seems to disclose only one complexity level of simulation. With respect to the citation provided in the Office Action (which allegedly discloses the foregoing feature), it refers to a description of a technique for defining a conditional statement, often used in computer programming, to transition from one simulation state to another, called a Graphical Rewrite Rule (GRR), and does not disclose functions used in different complexities of simulation and different versions of a second portion used in different complexities of simulation. Col. 6, lines 42-43.

Accordingly, *Atsumi* in view of *Smith* fails to teach or suggest "utilizing a model of the creature that comprises at least two portions, a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation," as recited in claim 1. For at least these reasons, *Atsumi* and *Smith*, individually and in combination, do not teach or suggest all of the features of claim 1. Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combination of *Atsumi* in view of *Smith* has not been made, and the rejection of claim 1 should be withdrawn.

**b. Claims 2-8**

Because independent claim 1 is allowable over the cited art of record, dependent claims 2-8 (which depend from independent claim 1) are allowable as a matter of law for at least the reason that dependent claims 2-8 contain all the features of independent claim 1. For at least this reason, the rejections of claims 2-8 should be withdrawn.

**c. Claim 10**

As provided in independent claim 10, Applicants claim:

A method of simulating a process at two different levels of complexity, the method comprising ***utilizing a model that comprises at least two portions, a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation.***

(Emphasis added).

Applicants respectfully submit that independent claim 10 is allowable for at least the reason that *Atsumi* in view of *Smith* does not disclose, teach, or suggest at least "utilizing a model that comprises at least two portions, a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation," as recited and emphasized above in claim 10.

For example, *Atsumi* describes a method of generating a three-dimensional neural network arranged in three layers: the nerve area layer, the nerve sub-area layer, and the cell layer. *Atsumi* fails to teach or suggest a method of simulating a process in different complexities of simulation, however. While the neural network described in *Atsumi* may be complex, the same level of complexity is used throughout simulation. Therefore, *Atsumi* fails to teach or suggest a method of simulating a process for use in two different complexities of simulation comprising "utilizing a model that comprises at least two portions, a first portion which contains functions for use in both of said different complexities of simulation; and a second

portion comprising two alternative versions, a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation," as recited in claim 10.

With respect to *Smith*, *Smith* appears to disclose at most a process for presenting visual representations of rules and/or subroutines that define the behavior of a simulation object. Instead of a user having to know a programming language to modify object properties and behavior rules, *Smith* describes a process of using a graphical interface to make such modifications. However, *Smith* fails to teach or suggest a method of simulating activities using at different complexities of simulation, as described in claim 10. In *Smith*, the same complexity of simulation is used throughout. Further, the citation provided in the Office Action (which allegedly discloses the foregoing feature) refers to a description of a technique for defining subroutines using a drag and drop procedure via a graphical interface and does not disclose or describe "different complexities of simulation." Col. 31, line 14. Moreover, *Smith* fails to teach or suggest that a model of a process that is simulated in different complexities is comprised of at least a first portion which contains functions arranged for use in both of the different complexities of simulation and a second portion comprising two alternative versions, where a first version is for use in one of the different complexities of simulation, and a second version is for use in the other different complexity of simulation. For example, as stated above, *Smith* seems to disclose only one complexity level of simulation. With respect to the citation provided in the Office Action (which allegedly discloses the foregoing feature), it refers to a description of a technique for defining a conditional statement, often used in computer programming, to transition from one simulation state to another, called a Graphical Rewrite Rule (GRR), and does not disclose functions used in different complexities of simulation and different versions of a second portion used in different complexities of simulation. Col. 6, lines 42-43.

Accordingly, *Atsumi* in view of *Smith* fails to teach or suggest "utilizing a model that comprises at least two portions, a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation," as recited in claim 10. For at least these reasons,

*Atsumi* and *Smith*, individually and in combination, do not teach or suggest all of the features of claim 10. Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combination of *Atsumi* in view of *Smith* has not been made, and the rejection of claim 10 should be withdrawn.

d. **Claims 11-13**

Because independent claim 10 is allowable over the cited art of record, dependent claims 11-13 (which depend from independent claim 10) are allowable as a matter of law for at least the reason that dependent claims 11-13 contain all the features of independent claim 10. For at least this reason, the rejections of claims 11-13 should be withdrawn.

e. **Claim 14**

As provided in independent claim 14, Applicants claim:

A simulator device arranged to simulate a creature in two different complexities of simulation, ***the device being arranged to utilise a model of the creature that comprises at least two portions:***

***a first portion which contains functions used in both of said different complexities of simulation; and***

***a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation.***

(Emphasis added).

Applicants respectfully submit that independent claim 14 is allowable for at least the reason that *Atsumi* in view of *Smith* does not disclose, teach, or suggest at least a "device being arranged to utilise a model of the creature that comprises at least two portions: a first portion which contains functions used in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation," as recited and emphasized above in claim 14.

For example, *Atsumi* describes a method of generating a three-dimensional neural network arranged in three layers: the nerve area layer, the nerve sub-area layer, and the cell layer. *Atsumi* fails to teach or suggest a method of simulating a



creature in different complexities of simulation, however. For example, while the neural network described in *Atsumi* may be complex, the same level of complexity is used during simulation. Therefore, *Atsumi* fails to teach or suggest simulation of a creature in two different complexities of simulation and "a device being arranged to utilise a model of the creature that comprises at least two portions: a first portion which contains functions used in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation," as recited in claim 14.

With respect to *Smith*, *Smith* appears to disclose at most a process for presenting visual representations of rules and/or subroutines that define the behavior of a simulation object. Instead of a user having to know a programming language to modify object properties and behavior rules, *Smith* describes a process of using a graphical interface to make such modifications. *Smith* fails to teach or suggest simulation of a creature in two different complexities of simulation, as described in claim 14, however. Diversely, the same complexity of simulation is used throughout *Smith*. Further, the citation provided in the Office Action (which allegedly discloses the foregoing feature) refers to a description of a technique for defining subroutines using a drag and drop procedure via a graphical interface and does not disclose or describe "different complexities of simulation." Col. 31, line 14. Moreover, *Smith* fails to teach or suggest a "device being arranged to utilise a model of the creature that comprises at least two portions: a first portion which contains functions used in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation," as recited in claim 14.

For example, as stated above, *Smith* seems to disclose only one complexity level of simulation. With respect to the citation provided in the Office Action (which allegedly discloses the foregoing feature), it refers to a description of a technique for defining a conditional statement, often used in computer programming, to transition from one simulation state to another, called a Graphical Rewrite Rule (GRR), and does not disclose functions used in different complexities of simulation and different

versions of a second portion used in different complexities of simulation. Col. 6, lines 42-43.

Accordingly, *Atsumi* in view of *Smith* fails to teach or suggest a "device being arranged to utilise a model of the creature that comprises at least two portions: a first portion which contains functions used in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation," as recited in claim 14. For at least these reasons, *Atsumi* and *Smith*, individually and in combination, do not teach or suggest all of the features of claim 14. Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combination of *Atsumi* in view of *Smith* has not been made, and the rejection of claim 14 should be withdrawn.

### **CONCLUSION**

For at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,

  
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